

WEST Search History

DATE: Sunday, July 09, 2006

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	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L15	L14	12
<input type="checkbox"/>	L14	L13 and (carbon monoxide or co) with conversion	12
<input type="checkbox"/>	L13	l5 and channels with fischer tropesch	18
<input type="checkbox"/>	L12	L11 and space velocity	28
<input type="checkbox"/>	L11	L10 not l9	37
<input type="checkbox"/>	L10	L6 and overall near4 conversion	40
<input type="checkbox"/>	L9	L7 and overall near4 conversion	3
<input type="checkbox"/>	L8	L7 and overal near4 conversion	0
<input type="checkbox"/>	L7	L6 and gas flow velocity	6
<input type="checkbox"/>	L6	L5 and channel\$1	369
<input type="checkbox"/>	L5	fischer tropesch and two near3 stage\$1	953
	<i>DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L4	fischer tropesch and two near3 stage\$1	860
<input type="checkbox"/>	L3	L2 and carbon monoxide with conversion	1
<input type="checkbox"/>	L2	us 20020048541	1
<input type="checkbox"/>	L1	us 2002048541	0

END OF SEARCH HISTORY

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and display fields
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FILE LAST UPDATED: 7 Jul 2006 (20060707/ED)

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=> s de 19654361/pn
L1 1 DE 19654361/PN
(DE19654361/PN)

=> d ll iall

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:430225 CAPLUS
DOCUMENT NUMBER: 129:111347
ENTRY DATE: Entered STN: 13 Jul 1998
TITLE: Stacked reactor for methanol-water steam reforming for hydrogen production
INVENTOR(S): Brenner, Martin; Pfender, Conrad
PATENT ASSIGNEE(S): Behr G.m.b.H. und Co., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
INT. PATENT CLASSIF.:
MAIN: C25D011-02
SECONDARY: F28D009-02; F28F007-00; B01J008-00
ADDITIONAL: B32B003-20
CLASSIFICATION: 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19654361	A1	19980625	DE 1996-19654361	19961224 <--
PRIORITY APPLN. INFO.:			DE 1996-19654361	19961224

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 19654361	ICM	C25D011-02
	ICS	F28D009-02; F28F007-00; B01J008-00
	ICA	B32B003-20
	IPCI	C25D0011-02 [ICM,6]; F28D0009-02 [ICS,6]; F28D0009-00 [ICS,6,C*]; F28F0007-00 [ICS,6]; B01J0008-00 [ICS,6];

B32B0003-20 [ICA,6]; B32B0003-18 [ICA,6,C*]
 IPCR B01J0012-00 [I,A]; B01J0012-00 [I,C*]; B01J0019-00
 [I,A]; B01J0019-00 [I,C*]; B01J0019-24 [I,A];
 B01J0019-24 [I,C*]; C01B0003-00 [I,C*]; C01B0003-32
 [I,A]; C01B0003-38 [I,A]; F28D0011-00 [I,C*];
 F28D0011-02 [I,A]; F28F0013-00 [I,C*]; F28F0013-12
 [I,A]; H01M0008-06 [I,A]; H01M0008-06 [I,C*]
 ECLA B01J012/00P; B01J019/00R; B01J019/24R4; C01B003/32B;
 C01B003/38B; F28D011/02; F28F013/12B; H01M008/06B2C

ABSTRACT:

The stacked reactor comprises a multiplicity of plate or tube elements with openings arranged so that, when stacked, the open areas form conduits which are not interconnected and which flow vertically. One set of conduits functions as the reactors and the other set of conduits functions as a heat transfer fluid passage. The elements have a microporous anodically oxidized film on its surface which is then acts as a substrate for the catalytically active material.

SUPPL. TERM: stacked reactor steam reforming
 INDEX TERM: Steam reforming
 (stacked reactor for methanol-water steam reforming for
 hydrogen production)
 INDEX TERM: Reforming apparatus
 (stacked; stacked reactor for methanol-water steam
 reforming for hydrogen production)
 INDEX TERM: 1333-74-0P, Hydrogen, preparation
 ROLE: IMF (Industrial manufacture); PREP (Preparation)
 (stacked reactor for methanol-water steam reforming for
 hydrogen production)
 INDEX TERM: 67-56-1, Methanol, reactions
 ROLE: RCT (Reactant); RACT (Reactant or reagent)
 (stacked reactor for methanol-water steam reforming for
 hydrogen production)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
 RECORD.
 REFERENCE(S): (1) Anon; DE 3601073 A1
 (2) Anon; DE 8511092 U1
 (3) Anon; WO 8909186 A1 CAPLUS
 (4) Anon; DE PS158789
 (5) Honicke, D; Aluminium 1989, V65, PS1154

=> s de 2824755/pn
 L2 0 DE 2824755/PN
 (DE2824755/PN)

=> s fr 2824755/pn
 L3 1 FR 2824755/PN
 (FR2824755/PN)

=> d l3 iall

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:102739 CAPLUS
 DOCUMENT NUMBER: 138:109388
 ENTRY DATE: Entered STN: 11 Feb 2003
 TITLE: Plate reactor and its operation in an exothermic
 catalytic process
 INVENTOR(S): Czernichowski, Eczyslovo; Czernichowski, Albin
 PATENT ASSIGNEE(S): Etudes Chimiques Et Physiques, Fr.
 SOURCE: Fr. Demande, 55 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French

INT. PATENT CLASSIF.:

MAIN: B01J008-02
 SECONDARY: B01J008-06; B01J019-24; B01J038-00; C07C001-04
 CLASSIFICATION: 51-6 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 47, 67
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2824755	A1	20021122	FR 2001-6622	20010515 <--
FR 2824755	B1	20030815		
PRIORITY APPLN. INFO.:			FR 2001-6622	20010515

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2824755	ICM	B01J008-02
	ICS	B01J008-06; B01J019-24; B01J038-00; C07C001-04
	IPCI	B01J0008-02 [ICM,7]; B01J0008-06 [ICS,7]; B01J0019-24 [ICS,7]; B01J0038-00 [ICS,7]; C07C0001-04 [ICS,7]; C07C0001-00 [ICS,7,C*]
	IPCR	B01J0019-24 [I,A]; B01J0019-24 [I,C*]; C07C0001-00 [I,C*]; C07C0001-04 [I,A]; C10G0002-00 [I,A]; C10G0002-00 [I,C*]; F28D0009-00 [I,A]; F28D0009-00 [I,C*]; F28F0013-00 [I,C*]; F28F0013-12 [I,A]
	ECLA	B01J019/24R4; C07C001/04B2; C10G002/00B2F2; F28D009/00L; F28F013/12

ABSTRACT:

Modular reactors for catalytic Fischer-Tropsch synthesis of hydrocarbons from syngas have cells containing catalyst alternating with cells for removing the reaction heat, a means for contacting the cells, and a means for controlling the flow of the reactants and products.

SUPPL. TERM: Fischer Tropsch catalytic hydrocarbon manuf multiple cell reactor; syngas conversion hydrocarbon manuf multiple cell reactor

INDEX TERM: Reactors
 (catalytic; multiple cell reactors for catalytic Fischer-Tropsch synthesis of hydrocarbons from syngas)

INDEX TERM: Fischer-Tropsch reaction
 Synthesis gas
 (multiple cell reactors for catalytic Fischer-Tropsch synthesis of hydrocarbons from syngas)

INDEX TERM: Hydrocarbons, preparation
 ROLE: IMF (Industrial manufacture); PREP (Preparation)
 (multiple cell reactors for catalytic Fischer-Tropsch synthesis of hydrocarbons from syngas)

=> s fischer tropsch
 23764 FISCHER
 17 FISCHERS
 23776 FISCHER
 (FISCHER OR FISCHERS)
 8092 TROPSCH
 L4 7987 FISCHER TROPSCH
 (FISCHER(W)TROPSCH)

=> s l4 and channels
 154016 CHANNELS
 L5 37 L4 AND CHANNELS

=> s l5 and carbon monoxide (s) conversion
 1202153 CARBON

26190 CARBONS
 1211529 CARBON
 (CARBON OR CARBONS)
 175618 MONOXIDE
 996 MONOXIDES
 176142 MONOXIDE
 (MONOXIDE OR MONOXIDES)
 148694 CARBON MONOXIDE
 (CARBON(W)MONOXIDE)
 463018 CONVERSION
 21855 CONVERSIONS
 475814 CONVERSION
 (CONVERSION OR CONVERSIONS)
 3391 CARBON MONOXIDE (S) CONVERSION
 L6 4 L5 AND CARBON MONOXIDE (S) CONVERSION

=> d l6 ibib ab 1-4

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:1334972 CAPLUS
 DOCUMENT NUMBER: 144:53386
 TITLE: Fischer-Tropsch catalytic plant
 and process for the manufacture of hydrocarbons from
 synthesis gas
 INVENTOR(S): Bowe, Michael Joseph
 PATENT ASSIGNEE(S): Gtl Microsystems AG, Switz.
 SOURCE: U.S. Pat. Appl. Publ., 5 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005282918	A1	20051222	US 2005-140884	20050601
US 7067561	B2	20060627		
WO 2005123883	A1	20051229	WO 2005-GB50070	20050524
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: GB 2004-13400 A 20040616

AB Fischer-Tropsch synthesis is performed on a CO-H2 feed
 gas using a plurality of compact catalytic reactor modules each defining
 catalytic reaction channels and coolant channels, in
 two successive stages, with the same number of reactor modules for each
 stage. The gas flow velocity in the first stage is sufficiently high that
 ≤75% of the CO undergoes conversion. The gases are cooled between
 successive stages so as to remove water vapor, and the pressure is reduced
 before they are subjected to the second stage. In addition, the reaction
 temperature for the second stage is lower than for the first stage, such that
 ≤75% of the remaining carbon monoxide undergoes
 conversion during the second stage, too. The deleterious effect
 of water vapor on the catalyst is hence suppressed, while the overall
 capacity of the plant can be adjusted by closing off modules in each stage

while keeping the nos. equal. A process flow diagram is presented.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:493817 CAPLUS
DOCUMENT NUMBER: 141:25974
TITLE: Two-stage Fischer-Tropsch reactor
with interstage cooling for reduced water-induced
catalyst oxidation and deactivation
INVENTOR(S): Bowe, Michael Joseph; Lee-Tuffnell, Clive Derek
PATENT ASSIGNEE(S): GTL Microsystems A.-G., Switz.
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004050799	A1	20040617	WO 2003-GB5198	20031127
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003048035	A1	20030612	WO 2002-GB5443	20021202
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2505614	AA	20040617	CA 2003-2505614	20031127
AU 2003285558	A1	20040623	AU 2003-285558	20031127
EP 1567616	A1	20050831	EP 2003-778556	20031127
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016828	A	20051018	BR 2003-16828	20031127
JP 2006508234	T2	20060309	JP 2004-570700	20031127
US 2006041029	A1	20060223	US 2005-536726	20050527
NO 2005003244	A	20050901	NO 2005-3244	20050701
PRIORITY APPLN. INFO.:				
			WO 2002-GB5443	A 20021202
			GB 2003-14790	A 20030625
			GB 2001-29054	A 20011205
			WO 2003-GB5198	W 20031127

AB Fischer-Tropsch synthesis is carried out in two stages
with a compact catalytic reactor unit with defined gas-flow
channels containing a gas-permeable catalyst structure, in which the
channels extend between headers that sep. the reaction stages.
The gas flow velocity through the first set of channels are
sufficiently high such that $\leq 70\%$ of the carbon
monoxide undergoes conversion. After reaction in the
first set of channels, the product gases are cooled in the

header between the two stages, which condenses the product water vapor. After cooling, the remaining gases undergo reaction at a sufficiently high gas flow velocity such that $\leq 70\%$ of the remaining carbon monoxide undergoes conversion. This decreases the partial pressure of water vapor and thus suppresses oxidation (and deactivation) of the catalyst.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:138900 CAPLUS
DOCUMENT NUMBER: 136:185874
TITLE: Reactor for carrying out intense thermal reactions
INVENTOR(S): Schoedel, Nicole; Sotzek, Manfred; Suessmann, Wolfgang; Walzl, Roland
PATENT ASSIGNEE(S): Linde Aktiengesellschaft, Germany
SOURCE: Eur. Pat. Appl., 5 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1180395	A2	20020220	EP 2001-119563	20010815
EP 1180395	A3	20021204		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10040209	A1	20020228	DE 2000-10040209	20000817
JP 2002126498	A2	20020508	JP 2001-241760	20010809
US 2002048541	A1	20020425	US 2001-931177	20010817
PRIORITY APPLN. INFO.:			DE 2000-10040209	A 20000817

AB The reactor for strong exothermic and endothermic reactions is provided with spaced parallel plates which form flat channels with lateral boundary surfaces (opposite to each other). The channels alternately (1) convey a process fluid and contain a solid catalyst and (2) convey a heat-transfer medium in an indirect heat contact with the process fluid. The plates are either flat or provided with grooves and ribs. The plate surfaces facing the process fluid flow are at least partially covered with the catalyst. The catalyst layer thickness is 1-500 μm (preferably 10-100 μm). The reactor is suitable for various exothermic and endothermic reactions (e.g., NH_3 synthesis, ethylene oxide synthesis, MeOH synthesis, synthesis of higher alcs., hydrogenation of hydrocarbons, Fischer-Tropsch synthesis, Claus reaction, oxidation of SO_2 to SO_3 , oxidation of H_2S to S).

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:335705 CAPLUS
DOCUMENT NUMBER: 132:336099
TITLE: Reactor for strongly exothermic catalytic reactions
INVENTOR(S): Heisel, Michael
PATENT ASSIGNEE(S): Linde A.-G., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19851109	A1	20000518	DE 1998-19851109	19981106
EP 1002571	A1	20000524	EP 1999-122144	19991105

EP 1002571 B1 20040107

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

BE 1012917 A4 20010508 BE 1999-720 19991105

ES 2210947 T3 20040701 ES 1999-122144 19991105

US 6676906 B1 20040113 US 1999-435355 19991108

PRIORITY APPLN. INFO.: DE 1998-19851109 A 19981106

AB The title reactor, giving greater safety in case of process upsets, has catalyst particles between cooled partition walls formed from metal plates and elements having channels for the passage of cooling liqs. A drawing of the reactor is included, and use of the reactor in hydrogenating C₂H₂ to C₂H₄ is exemplified.